

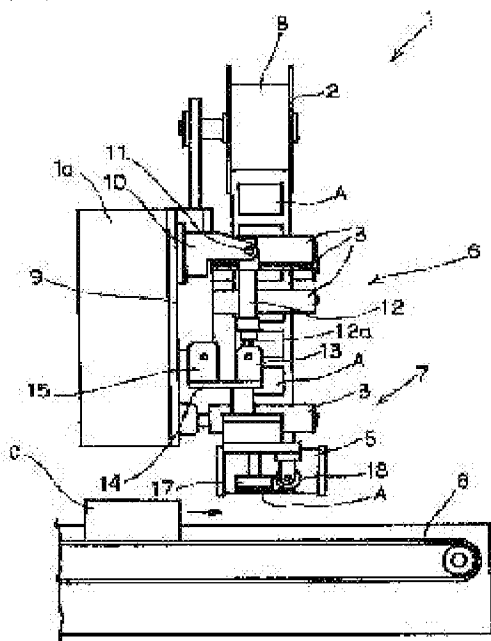
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(54) AUTOMATIC LABELING DEVICE



(57)Abstract:

PURPOSE: To attach a label to the upper surface of an article while maintaining the positional accuracy without synchronizing the feeding speed of the labels continuously attached to a strip-like mount paper with the transfer speed of the article.

CONSTITUTION: A cylinder mechanism 12 is provided above a label attaching mechanism 7, the upper part of the label attaching mechanism 7 is suspended from the end part of a rise and set rod 12a of the cylinder mechanism the label attaching mechanism 7 is freely pivotally mounted to a frame 1a of the body of a labeling device, the label attaching mechanism 7 is moved downward to the upper surface of an article C by the projection of the rise and set rod 12a and a label A is attached to the article C in conjunction with the relative movement of the article C.

[Claim 1]Have the following, form a cylinder mechanism in an upper position of the above-mentioned label affixing machine style, and carry out the lifting and holding of the upper part of the label affixing machine style concerned at a tip of the frequent appearance rod, and. A label affixing machine style is installed in a body frame which allocated said label conveyer style free [vertically and rotationally moving], An automatic labeling device constituting so that may make the above-mentioned frequent appearance rod project, and downward moving of the label affixing machine style may be carried out to a top face position of an article, and it may coordinate with relative displacement of an article and a label may be stuck on an article, when an article which carries out conveyance movement is transported to a prescribed position.

A strip mount which sticks continuously two or more label groups stuck on an article.

A label conveyer style which sends out a strip mount after a delivery and label exfoliation for the above-mentioned strip mount to label exfoliation edge at the pasteboard rolling-up side.

A label affixing machine style which sticks an exfoliative label on an article.

[Claim 2]The automatic labeling device according to claim 1 having had the following, and having equipped with an adsorption actuator ahead of [facing a top face position of an article] a downward moving direction, and having adjoined the back, and equipping a contact roller.

An adsorption actuator by which the above-mentioned label affixing machine style adsorbs an exfoliative label. A contact roller which presses this label.

DETAILED DESCRIPTION

[0001]

[Industrial Application]The delivery speed of the label which this invention required for the automatic labeling device which sticks the label printed on the articles conveyed, and was especially stuck succeeding the strip mount, It is related with the automatic labeling device which can hold exact accuracy of position and can stick a label on the upper surface of an article without synchronizing the bearer rate of an article.

[0002]

[Description of the Prior Art]With the automatic labeling device which sticks the label which displayed a trade name and the contents on articles, such as goods, conventionally. On a strip mount, consist a prescribed interval continuously and the label which became independent one sheet at a time is stuck so that exfoliation is possible, It lets out to movement of pasteboard with the label which is conveyed and which exfoliated one sheet at a time in the cuff of the steep pasteboard in label exfoliation edge for every article to a sticking position, and what was constituted so that continuation pasting of the label which exfoliated automatically might be carried out at the upper surface of an article is known.

[0003]However, in the thing of the above conventional composition. If the delivery speed of the label in which what can do label attachment work flexibly using the same automatic labeling device exfoliated, and the bearer rate of an article are not correctly synchronized to the label in which size sizes differ, Cannot stick a label with sufficient accuracy on the prescribed position on the upper surface of an article, but so, The troublesome preparatory work which reaches to an extreme of the delivery speed of a label one by one, and is adjusted finely is needed for every change to the label in which sizes differ, and it has the fault of inducing the remarkable decline in working efficiency, in the production system of a small-quantity various kind which repeats exchange of a different-species label frequently.

[0004]

[Problem(s) to be Solved by the Invention]The place which this invention is originated that the conventional fault should be canceled in view of the actual condition like the above, and is made into the purpose, Without synchronizing correctly the delivery speed of the exfoliative label, and the bearer rate of an article, a label can be stuck with sufficient accuracy on the prescribed position on the upper surface of an article by which continuous carrying is carried out, and it is going to provide the automatic labeling device which can perform a label attachment operation efficiently continuously.

[0005]

[Means for Solving the Problem]In order to solve a technical problem, the 1st arts means that this invention adopted, A strip mount which sticks continuously two or more label groups stuck on an article, A label conveyer style which sends out a strip mount after a delivery and label exfoliation for the above-mentioned strip mount to label exfoliation edge at the pasteboard rolling-up side, Consist of a label affixing machine style which sticks an exfoliative label on an article, form a cylinder mechanism in an upper position of the above-mentioned label affixing machine style, and carry out the lifting and holding of the upper part of the label affixing machine style concerned at a tip of the frequent appearance rod, and. A label affixing machine style is installed in a body frame which allocated said label conveyer style free [vertically and rotationally moving], When an article which carries out conveyance movement is transported to a prescribed position, make the above-mentioned frequent appearance rod project, and downward moving of the label affixing machine style is carried out to a top face position of an article, And it is characterized by constituting so that it may coordinate with relative displacement of an article and a label may be stuck on an article, and as the 2nd technical means the above-mentioned label affixing machine style, It has an adsorption actuator which adsorbs an exfoliative label, and a contact roller which

presses this label, and equipped with an adsorption actuator ahead of [facing a top face position of an article] a downward moving direction, and the back was adjoined, and a contact roller was equipped.

[0006]

[Function]Therefore, can stick a label with sufficient accuracy on the prescribed position on the upper surface of an article by which continuous carrying is carried out, without synchronizing correctly the delivery speed of the exfoliative label, and the bearer rate of an article according to this invention, and. A label attachment operation can be performed efficiently continuously, without requiring a troublesome preparatory work, also when changing into the label in which sizes differ.

[0007]

[Example]One example which showed the composition of this invention to the drawing is described in detail. In drawing 1 and drawing 2, 1 is an automatic labeling device and this automatic labeling device 1, To the upper position of the body frame 1a laid on the pedestal which is not illustrated, the label A. The delivery reel 2 which winds the strip mount B which carries out continuation pasting of A-- is formed, Allocate in the body frame 1a of the lower part the guide-roller group 3, 3 --, and the label conveyer style 6 that comprises the machine reel 4 and the label exfoliation edge 5, and. The label affixing machine style 7 in which vertically and rotationally moving is free is formed in the 1 side of the above-mentioned body frame 1a, Articles C and C by which continuous carrying is carried out in the transportation belt 8 top -- The label A and A-- are continued and stuck on the upper surface, and the automatic labeling device 1 is constituted so that the strip mount B after label exfoliation may be automatically rolled round to the machine reel 4.

[0008]The support plate 9 formed in the front position of the above-mentioned body frame 1a inverse L-shaped is set up by one.

Install the cylinder mechanism 12 in the upper part of the support plate 9 via the brackets 10 and 10 and the supporting spindle 11, and the label affixing machine style 7 is installed at the tip of the frequent appearance rod 12a via the lifting-and-holding brackets 13 and 13, and. The horizontal substrate 14 which adheres the above-mentioned lifting-and-holding brackets 13 and 13 is supported pivotably in said support plate 9 at the fixed block part 15, and the label affixing machine style 7 is supported free [vertically and rotationally moving] via this fixed block part 15.

The linear cylinder 16 which appears frequently horizontally is put side by side in the undersurface of the above-mentioned horizontal substrate 14.

It is constituted so that it may adhere at the tip of the above-mentioned linear cylinder 16 and the transportation direction of the transportation belt 8 and orthogonal shape may be made to carry out frequent appearance movement of the label affixing machine style 7 provided with the adsorption actuator 17 which adsorbs the exfoliative label A, and the contact roller 18.

[0009]The front position which counters the article C on the transportation belt 8 is equipped with the adsorption actuator 17, and the above-mentioned label affixing machine style 7 adjoins the back, it equips the contact roller 18 and is constituted.

By the projection operation of the frequent appearance rod 12a of said cylinder mechanism 12, downward moving rotation of the label affixing machine style 7 is carried out by making the fixed block part 15 into a rotation center, and the above-mentioned adsorption actuator 17 and the contact roller 18 are located in the upper surface of the article C.

[0010]Drawing 3 is the physical relationship of the adsorption actuator 17 of the label affixing machine style 7 and the contact roller 18, and the tip part of the label exfoliation edge 5 a shown enlarged drawing, and the above-mentioned contact roller 18, Where the both ends of the axis of

rotation 18a are caused by the coil springs 19 and 19, it is supported pivotably enabling free up-and-down motion.

Adsorption support of the label A which it let out from the tip part of the label exfoliation edge 5 is carried out in the adsorption face 17a established in the undersurface of the adsorption actuator 17.

[0011]In the composition like the above statement, if the automatic labeling device 1 is started, the delivery operation of the strip mount B from the delivery reel 4 will be started, and. The label A which reached to the tip position of the label exfoliation edge 5 exfoliates, the adsorption face 17a of the adsorption actuator 17 which constitutes the label affixing machine style 7 is adsorbed, and it is held at the waiting state of label attachment.

[0012]And if the article C conveyed with the transportation belt 8 from a previous process and C- - reach to the front position of a label sticking position as shown in drawing 4 (a) and (b), The proximity switch which is not illustrated is set to ON, and first, the linear cylinder 16 projects horizontally and moves the label affixing machine style 7 to the upper position of the transportation belt 8.

[0013]Subsequently, the frequent appearance rod 12a of the cylinder mechanism 12 turns around, and projects, Arrival at a field of the one lateral area located in the contact roller 18 side of the label A by which the adsorption actuator 17 was adsorbed is carried out to the upper surface of the article C which moved to the sticking position at the same time the label affixing machine style 7 carries out downward moving rotation by making the fixed block part 15 into a rotation center. Then, where downward moving rotation of the above-mentioned label affixing machine style 7 is held, as shown in drawing 5 (a), the adsorption operation to the label A of the adsorption actuator 17 is canceled, and this label A dissociates from the adsorption face 17a, and. As shown in the figure (b), in connection with the relative displacement of the article C on the transportation belt 8, the pressing operation of the upper surface of the label A by the contact roller 18 advances one by one from one lateral area of the label A which carried out arrival at a field to the upper surface of the article C previously.

[0014]In the appropriate back, when the article C separates from the sticking position of the label affixing machine style 7, the frequent appearance frequent appearance rod 12a of the cylinder mechanism 12 will carry out ** ON, and the linear cylinder 16 will return to the regular position, and the label affixing machine style 7 will return to the adsorption operation of the following label A which exfoliates with the label exfoliation edge 5.

[0015]In the process of the article C and C-- in which follow the upper surface and label attachment is performed on it, from exfoliation of such a label A and adsorption, through downward moving rotation of the label affixing machine style 7 a actual label attachment operation, Since it is carried out by carrying out downward moving rotation of the label affixing machine style 7 with the frequent appearance rod 12a of the projecting cylinder mechanism 12 when the article C arrives at a sticking position, After performing label attachment on the articles C to precede before the following article C arrives at a label sticking position, What is necessary is just to make the exfoliative label A stick to the adsorption actuator 17 of the label affixing machine style 7, and the label A is only supplied to the adsorption actuator 17 of the label affixing machine style 7 regardless of the bearer rate of the article C which moves in the transportation belt 8 top, Label attachment holding exact attaching accuracy can be performed efficiently continuously. Since downward moving is carried out to the position in which the label affixing machine style 7 carries out near to the upper surface of the article C, the time lag which a pasting operation takes can be decreased as much as possible, it becomes possible to accelerate the continuation operation of the bearer rate of an article, and label attachment, and improvement in working efficiency can be aimed at.

[0016]

[Effect of the Invention]The strip mount which sticks continuously two or more label groups on which this is stuck by the article by this invention in short, The label conveyer style which sends out the strip mount after a delivery and label exfoliation for the above-mentioned strip mount to label exfoliation edge at the pasteboard rolling-up side, Consist of a label affixing machine style which sticks the exfoliative label on an article, form a cylinder mechanism in the upper position of the above-mentioned label affixing machine style, and carry out the lifting and holding of the upper part of the label affixing machine style concerned at the tip of the frequent appearance rod, and. A label affixing machine style is installed in the body frame which allocated said label conveyer style free [vertically and rotationally moving], When the article which carries out conveyance movement is transported to a prescribed position, make the above-mentioned frequent appearance rod project, and downward moving of the label affixing machine style is carried out to the top face position of an article, And constitute so that it may coordinate with the relative displacement of an article and a label may be stuck on an article, and the above-mentioned label affixing machine style, It has an adsorption actuator which adsorbs the exfoliative label, and a contact roller which presses this label, Since it equipped with the adsorption actuator ahead of [facing the top face position of an article] the downward moving direction, and the back was adjoined and the contact roller was equipped, it is not necessary to synchronize correctly the delivery speed of a label and the bearer rate of an article of which ** exfoliation was done.

Therefore, also when the composition of the whole device can be simplified, and reliability can be raised and it changes into the label in which sizes differ, tuning of a troublesome delivery speed can be made unnecessary and it can shift to label attachment work smoothly.

** Since a actual label attachment operation is performed by carrying out downward moving rotation of the label affixing machine style by the projecting cylinder mechanism when an article arrives at a sticking position, After performing label attachment on the articles to precede before a following article arrives at a label sticking position, What is necessary is just to make the exfoliative label stick to the adsorption actuator of a label affixing machine style, and regardless of the bearer rate of the article which moves in a transportation belt top, a label is only supplied to the adsorption actuator of a label affixing machine style, and label attachment holding exact attaching accuracy can be performed efficiently continuously.

** Since downward moving is carried out to the position in which a label affixing machine style carries out near to the upper surface of an article, the time lag which a pasting operation takes can be decreased as much as possible, it becomes possible to accelerate the continuation operation of the bearer rate of an article, and label attachment, and improvement in working efficiency can be aimed at. The very useful new effect of ** is done so.